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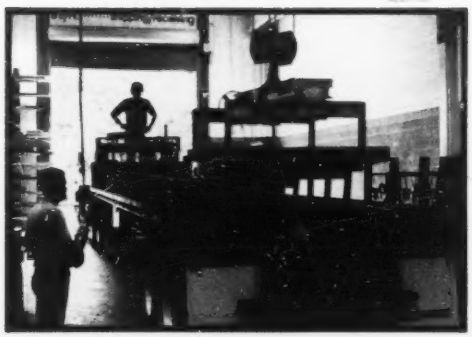
IRON AGE SEPTEMBER 19, 1986

MANUFACTURING MANAGEMENT



The Many Facets of Just-in-Time

How to Deliver Just-In-Time, Just-In-Time

Just-In-Time Manufacturing: Much More Than Reducing Inventories

In Pursuit of Quality: Fastening

SEPTEMBER 19, 1986 VOL. 229, NO. 18

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MANUFACTURING MANAGEMENT

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WHY IS PLANT SPENDING SICK?

BY JOHN D. BAXTER

Though the economy's moving ahead, plant and equipment outlays by U.S. manufacturers have slipped from slow-ahead to reverse.

Everybody knows that plant and equipment spending by U.S. manufacturers has gone into a slide. A cooling trend noted last year has accelerated into an outright slide in spending so far this year.

Still, answers to the 'why' of this slide have remained elusive.

A look at the chart here puts in perspective the timing and extent of the slide. This spending, in real dollars, grew by almost 19 pct in 1984. The boom cooled sharply last year as outlays grew by 8.8 pct. And for this year, based on an April/May U.S. Commerce Dept. survey of executives and their spending plans, it appears these outlays will actually decline from the 1985 level by 4.1 pct.

The slowdown in actual outlays may be recent, but it reflects a long, steady souring of attitudes of manufacturing executives about plant investment. In an October-November 1985 survey, they told Commerce they would cut back their plant expenditures this year by 0.8 pct. Then, in a January-March survey, they said they would instead cut back by 1.9 pct. Then, in the noted April-May survey, they pulled down their 1986 spending sights even further; they would spend 4.1 pct less than last year.

More than that, the latest Conference Board quarterly survey of capital appropriations by the nation's 1,000 largest manufacturers shows a drop of 18 pct from the first quarter a year ago. Notably, appropriations give a picture of actual spending that lies ahead.

All this tumbling, and outlook for more tumbling, in plant spending is taking place as the U.S. economy expands. For example, plant spending by manufacturers in the second quarter of this year was down 3.8 pct from the year-ago period. In the same period, the U.S. economy (GNP) went up by 5.5 pct.

While everybody knows about, and talks about, the slide in capital spending, there is no consensus on just why these outlays have come on hard times. From bars to boardrooms, the fall of plant spending has reportedly stirred up lively debates. (Bars are said to be a debate forum because good-paying jobs at plants are at stake when companies invest, or don't invest, in those plants).

The cause of the spending lag is more than the matter of business concern about the loss of tax incentives on investment under the new tax bill or the low operating rates of factories. Those are but two factors among several.

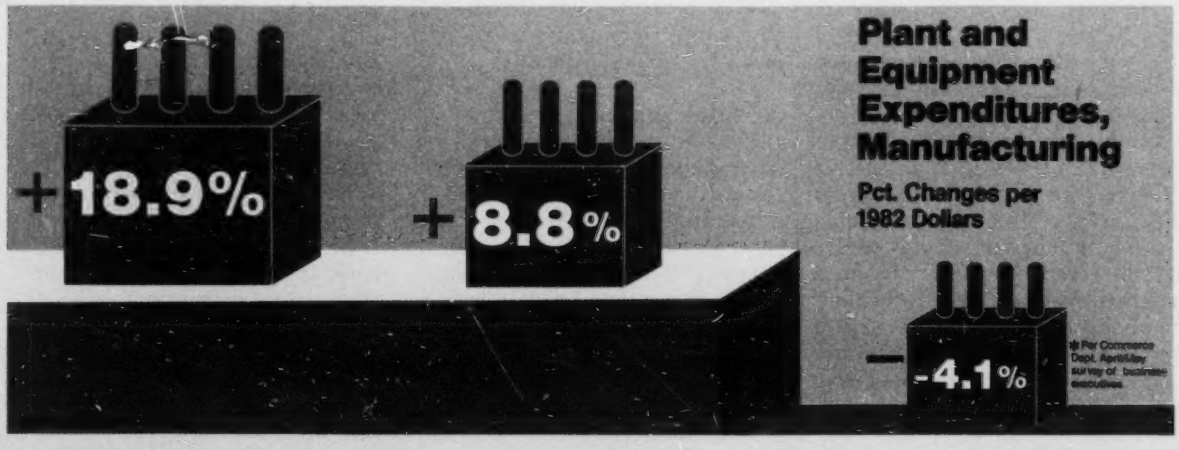
The trend in plant spending is not going by the book. Economists point out that, based on almost unbroken precedent, these outlays should be rising—at a clip equal to or greater than the growth rate for the economy.

The most often mentioned reason for slowed spending centers on upcoming business tax changes. The proposed tax bill will undercut investment incentives, especially since it is retroactive to the start of this year.

That certainly can't help business investment now.

Still, other observers look to what is actually happening on the manufacturing scene to explain the slide in capital expenditures.

(Cont. on p. 32.)



For one, they note that factory output has long been on a flat, or even a down trend for some time now. This output in manufacturing in the second quarter this year was 0.1 pct below what it was in the year-ago quarter.

Certainly, managers, at any company where meeting production volume requirements is not a problem, aren't giving high priority to new equipment.

More Reasons

Another favorite reason cited for the plant spending lag relates to the low output trend. Manufacturers simply are not using enough of their existing plant capacity to warrant running out and buying more capital equipment. The plant utilization rate in manufacturing in the second quarter this year was off 1.4 percentage points from the 79.1 pct rate in the second quarter last year. In the especially hard-hit sector of durable goods manufacturing, this rate was down 2.5 percentage points to 76.0 pct of capacity.

Again, here is a trend that clearly works against any ideas for stepping up investment in new plant and equipment.

Less often cited as a reason for poor levels of plant spending has been the persistent sluggishness in the flow of new orders to manufacturers. Simply, if manufacturers don't have a solid inflow of orders, plant production volume and utilization rates can't be expected to fare very well. So, the rate of orders flow is a base determiner of how busy plants are and, as much as anything, shapes the investment attitudes of managers.

New orders received by manufacturers in the second quarter of this year were off by 0.6 pct from the orders volume in the same quarter a year ago. Those orders in the second quarter ran at a monthly average of $193.7 billion.

Among those observers with a financial bent, a favorite explanation for the lag in capital spending is the weakness in corporate profits. Certainly, profits of manufacturers have tumbled. Between 1984 and 1985, net earnings of manufacturers fell 16.5 pct to $73 billion. And, continuing the trend, these earnings were down 1.4 pct in the second quarter this year compared to the second period of last year.

"Making money, but not enough," said one financial executive at a Midwest metals fabricating company.

"These days," he added, "the big capital spending bucks have to come from company earnings. Interest rates may be low and invite borrowing to invest, but balance sheets at a lot of companies are in bad shape; corporate debt is still too high."

The worldwide slump in oil prices has been a factor leading to cutbacks in capital spending. These low prices have hit big-tag spending for drilling rigs, pipeline projects, refineries and other oil country capital goods. Some observers feel this is the 'heart of the problem' in accounting for the recent, and continuing, declines in business capital spending.

Capital outlays by the huge petroleum industry are important, of course. However, even when this spending is excluded from the trend in plant outlays, the direction of overall spending is still downward. For example, The Conference Board's capital appropriations survey showed a year-to-year decline of 18 pct as of the first quarter. But when petroleum industry setasides were excluded, these appropriations were still down by almost 14 pct.

A Wider Search

More economists these days are saying that to find the causes of capital spending weakness, it is necessary to look beyond short-term factors. Low plant operating rates, the oil slump and other short-term spending depressants have an impact, but long-term patterns are now heavily influencing spending patterns.

Over the short run, fast cyclical growth tends to override negative long-term influences on spending. However, when the short-term business cycle is caught up in sluggish growth, as at present, then long-term negative investment factors tend to loom big.

So, the search for answers on the current deep and worsening lag in plant outlays goes beyond today's short-term factors.

For one, the sharp rise in imports in recent years has hammered plant spending in this country. In 1970, imports of capital goods accounted for 7 pct of the U.S. market for these goods. Last year, these imports gobbled up 20 pct of the U.S. market for capital goods. These facts make it clear that the U.S. plant spending lag is hitting domestic capital goods producers harder than published figures would indicate.

At a time when spending for new plant and equipment is already lagging, and more of what there is goes to overseas suppliers, then the impact on U.S. capital goods producers is quite apparent.

Further, the import situation is so severe that it actually slows the U.S. economy itself—which, in turn, lessens demand for new capital equipment. In commenting on the recent slowdown of the economy, Charls E. Walker, a former Treasury deputy secretary, stated flatly, "The economy is sluggish because too much domestic demand is diverted to goods produced abroad."

It is a popular notion that foreign competition acts as a spur to U.S. manufacturers to acquire new equipment in order to better compete and defend their markets. But apparently import competition—at least when it becomes overwhelming—works another way, too. Faced with shrunken market shares, many U.S. manufacturers have pulled back on their capital spending. They have either not seen the need or can't afford new plant and equipment.

For example, back in 1980 and 1981, when U.S. manufacturers ran up trade *surpluses* totaling

more than $20 billion, they pushed up their plant spending about 11 pct each year. But in the first half of this year, U.S. manufacturers, buried by a landslide trade deficit of $65 billion, told the Commerce Dept. they would cut back their plant spending this year.

Diverted Funds

There is still another trend of recent years that has hurt business capital investment in this country. It is a force at work right now in putting a lid on manufacturers' investment in new production facilities.

The force is the many mergers and acquisitions that often divert corporate funds from plant spending. A growing number of companies have sought corporate growth through acquisitions rather than through putting the latest equipment on line and grow through internal effort.

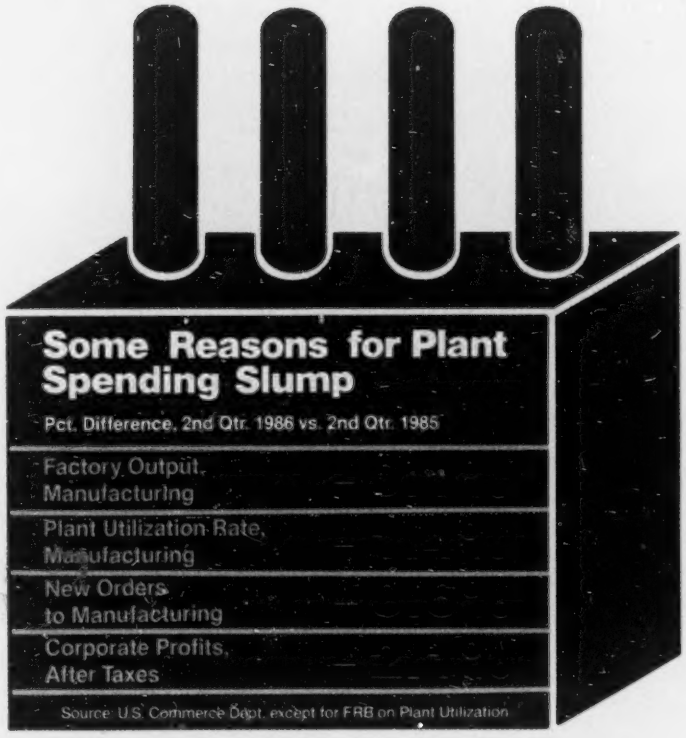
One merger broker recently declared that the cheapest way for a corporation to acquire added productive capacity and capability was through acquisition of other companies or plants.

In 1984, U.S. corporations, according to the merger consultant firm W.T. Grimm & Co., expended $122 billion in making acquisitions. In that same year, corporations spent $354 billion for new plant and equipment. Last year, corporations laid out $180 billion for acquisitions and $386 billion for plant spending.

So, corporate spending for acquisitions, as a pct of capital expenditures amounted to 35 pct in 1984 and 46 pct last year. Years ago, there was no such diversion of corporate funds from potential plant spending—certainly not in such magnitude.

Another rapidly rising use of corporate funds that impacts on plant outlays is the huge amounts spent by companies to buy back their own outstanding stock.

Back in 1981, when plant spending rose by a strong 11.5 pct, corporate buybacks of stock totaled $3.6 billion. In the first half this year, as plant spending started to sag, corporate buybacks amounted to more than $19 billion. Last year, these stock buyback outlays came to $37 billion.


Some Reasons for Plant Spending Slump
Pct. Difference, 2nd Qtr. 1986 vs. 2nd Qtr. 1985
Factory Output, Manufacturing
Plant Utilization Rate, Manufacturing
New Orders to Manufacturing
Corporate Profits, After Taxes
Source: U.S. Commerce Dept. except for FRB on Plant Utilization

"Stock buy-backs," explained one security analyst, "can often make a company's earnings per share look a lot better—and more quickly so—than an equivalent amount spent in buying updated equipment to improve operations. So, given a choice, you can see why companies often opt to put so much into buy-backs—to the neglect of plant investment."

Restructuring

There is another relatively long-term factor that is now impacting on plant spending by U.S. manufacturers. That factor is the great restructuring—mostly contraction—going on in a number of industries. This development holds true especially for basic goods industries. And those industries, capital-intensive as they are, have been in the past among the biggest buyers of capital goods.

The domestic steel industry offers a clear illustration of the impact of long-term contraction on plant spending. In the years 1979-80, raw steel production of U.S. mills averaged 124 million net tons per year. The industry contracted, and in the years 1984-85 raw steel output averaged 90 million tons per year. How was this industry's capital spending affected? These outlays fell to an average $1.4 billion per year in the recent years period from $2.5 billion per year in the earlier period—a 44 pct drop.

Add up the short-term pressures on plant spending—and the special long-term pressures—and it becomes clear why these outlays are presently so weak even as the U.S. economy continues to expand. As one economist has noted, "There are super-cycle forces working against plant expenditures that are often overlooked by we analysts." □

PRICE & PRODUCTION DATA

(Effective August 25, 1986)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	134	142	174	168
Pittsburgh	168	154	188	165
Youngstown	103	101	93	94
Lake Erie	103	91	79	129
Detroit	135	118	133	141
Chicago	322	318	388	492
Midwest	141	148	164	166
Southern	138	135	160	191
Western	40	39	82	77
U.S. Production	1,284	1,246	1,461	1,623

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural) ..... gross-ton 58.0*
Pellets (per iron unit natural) ..... gross-ton 59.4**
Pellets (per iron unit natural) ..... gross-ton 72.5-86.9***
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer ..... gross-ton $30.03-31.53

*58.0¢–Mineral Services, 8/13/85. **59.4¢–Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.5¢–U.S.Steel, 8/16/85. 86.9¢–Ogleboy Norton 3/25/82; Hanna Mining and Cleveland-Cliffs 2/26/82.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective August 25, 1986)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,284	1,246	55,429	57,100
Capability Utilization Rate	53.0	51.4	66.8	66.2

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 5/19/86)	24.850	24.850	24.850	27.582
Pig Iron** (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton = 2240 lbs.)	$ 75.17	$ 75.17	$ 72.17	$ 74.17
No. 2 bundles	$ 53.83	$ 53.83	$ 52.50	$ 53.83

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 76.50	$ 76.50	$ 72.50	$ 77.50
No. 1 steel, Philadelphia	73.50	73.50	72.50	72.50
No. 1 steel, Chicago	75.50	75.50	71.50	72.50
No. 1 bundles, Detroit	72.50	72.50	67.50	71.50
Low Phos., Youngstown	74.50	74.50	71.50	70.50
No. 1 mach'y cast., Pgh	74.50	74.50	74.50	71.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	105.50	105.50	105.50	99.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective August 25, 1986) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	51.27	50.80	8/25/86
Copper (C)	60.00-62.00	60.50-62.00	8/25/86
Lead	22.00-22.25	21.75-22.25	8/25/86
Magnesium Ingot	153.00	148.00	12/ 9/85
Nickel (LME)	170.54	171.43	8/25/86
Zinc	44.00	41.00-44.00	7/30/86

ALUMINUM: Avg. for last week & previous week. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$144.00
Beryllium 97% powder 200	$197.00
Cadmium, ton lots	$1.00
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$11.70
Gold per troy oz.	$380.00
Indium, dollars per troy oz.	$2.65
Iridium, dollars per troy oz.	$415.00
Magnesium sticks, 10,000 lbs.	$2.02
Mercury, per 76-lb., f.o.b. N.Y.	$230.00-240.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.25
Palladium, per troy oz.	$141.00
Platinum, per troy oz.	$578.00
Rhodium, per troy oz.	$1,235.00
Silver ingots, per troy oz.	$5.12
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.50-9.85
Vanadium	$6.00
Zirconium sponge	$12.00-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

August 18—248.63
August 19—246.64
August 20—245.30
August 21—244.69
August 22—245.04

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turnings
Copper	58	51
Yellow brass	50	46½
Red brass	53	48
Comm. bronze	54	48¼
Mang. bronze	41½	40½
Free cutting rod ends	49	48

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	53
No. 2 copper wire	44
Light copper	36

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	49
No. 2 copper wire	40
Light copper	32
No. 1 composition	45
No. 1 comp. turnings	44
Hvy. yellow brass solids	30
Hvy. yellow brass turnings	25
Radiators	35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum		
New mixed clips	35	— 36
Old sheet	33	— 34
Old cast	33	— 34
Clean dry borings	34	— 35
Aluminum		
Segregated clippings	28	— 29
Mixed I.C. clips	26	— 27
Old sheets and cast	23	— 24
Borings and turnings	20	— 21
Duraluminum clippings	24	— 25
Copper and Brass		
No. 1 copper wire	45	— 47
No. 2 copper wire	36	— 37
Light copper	31	— 33
Radiators	26	— 27
No. 1 composition	36	— 37
No. 1 composition turnings	34	— 35
Cocks and faucets	27	— 28
Clean heavy yellow brass	25	— 26
Brass Pipe	27	— 28
New soft brass clippings	37	— 39
Lead		
Heavy soft lead	5	— 7
Whole batteries	1	— 3
Type metal	15	— 17
Electrotype	13	— 14
Nickel		
Nickel solids	105	—115
Nickel rod ends	105	—115
Nickel sheets, clips	105	—115
Nickel turnings	25	— 35
Zinc		
New zinc clippings	16	— 17
Old diecast zinc	12	— 13

EFFECTIVE AUGUST 25, 1986

(Effective August 25, 1986) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles (auto)	94.00 to	95.00
No. 2 bundles	46.00 to	47.00
No. 1 busheling	87.00 to	88.00
Machine shop turnings	8.00 to	9.00
Shoveling turnings	44.00 to	45.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	104.00 to	105.00
Heavy turnings	66.00 to	67.00
No. 1 RR hvy. melting	84.00 to	85.00
Rails, 2 ft. and under	95.00 to	96.00
Scrap rails, random lgth	82.00 to	83.00
RR specialties	95.00 to	96.00
No. 1 machinery cast	74.00 to	75.00
Cupola cast	67.00 to	68.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	510.00 to	515.00
18-8 turnings	410.00 to	415.00

Chicago

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	71.00 to	72.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles (auto)	91.00 to	92.00
No. 2 dealer bundles	60.00 to	61.00
No. 1 busheling	86.00 to	87.00
Shredder scrap	83.00 to	84.00
Machine shop turnings	27.00 to	28.00
Mixed borings and turnings	22.00 to	23.00
Shoveling turnings	29.00 to	30.00
Cast iron borings	41.00 to	42.00
Low phos. forge crop	97.00 to	98.00
Low phos. punchings plate 1/4 in. and heavier	115.00 to	116.00
Low phos. 2 ft. and under	110.00 to	111.00
No. 1 RR hvy. melting	77.00 to	78.00
Scrap rails random lgth	79.00 to	80.00
Reroller rails	104.00 to	105.00
Rails, 2 ft. and under	99.00 to	100.00
RR couplers and knuckles	90.00 to	91.00
RR car axles	106.00 to	107.00
No. 1 machinery cast	105.00 to	106.00
Cupola cast	92.00 to	93.00
Stove plate	99.00 to	100.00
Steel car wheels	91.00 to	92.00
Stainless		
18-8 bundles and solids	475.00 to	485.00
18-8 turnings	380.00 to	390.00
430 bundles and solids	125.00 to	135.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 72.00 to	$ 75.00
No. 2 hvy. melting	64.00 to	67.00
No. 1 dealer bundles	86.00 to	89.00
No. 2 dealer bundles	53.00 to	56.00
No. 1 busheling	84.00 to	87.00
Shredder scrap	83.00 to	86.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	79.00 to	82.00
Low phos. 2 ft. punchings	93.00 to	96.00
Electric furnace bundles	90.00 to	93.00
RR specialties	79.00 to	82.00
Rails, 2 ft. and under	96.00 to	99.30
Cupola cast	85.00 to	88.00
Heavy breakable cast	53.00 to	56.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 57.00 to	$ 58.00
No. 2 hvy. melting	56.00 to	57.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	35.00 to	36.00
No. 1 busheling	70.00 to	71.00
Drop forge flashings	44.00 to	45.00
Machine shop turnings	28.00 to	29.00
Mixed borings and turnings	8.00 to	9.00
Shoveling turnings	28.00 to	29.00
Cast iron borings	22.00 to	23.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	460.00 to	470.00
18-8 turnings	330.00 to	340.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 57.00 to	$ 58.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 dealer bundles	33.00 to	34.00
Machine shop turnings	20.00 to	21.00
Shoveling turnings	20.00 to	21.00
Low phos. plate	74.00 to	75.00
Electric furnace bundles	63.00 to	64.00
Galvanized bundles	60.00 to	61.00

Cleveland

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 55.00 to	$ 56.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	80.00 to	81.00
No. 1 factory bundles	76.00 to	77.00
No. 2 bundles	31.00 to	32.00
No. 1 busheling	70.00 to	71.00
Machine shop turnings	20.00 to	21.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	20.00 to	21.00
Cut structural & plates, 5 ft. and under	71.00 to	72.00
Cut structural & plates, 2 ft. and under	92.00 to	93.00
Low phos. punchings plate	92.00 to	93.00
Foundry steel, 2 ft. & under	54.00 to	55.00
No. 1 RR hvy. melting	60.00 to	61.00
Rails, 2 ft. and under	89.00 to	90.00
Rails, 18 in. and under	91.00 to	92.00
No. 1 machinery cast	80.00 to	81.00
Mixed cast	47.00 to	48.00
Stainless		
18-8 bundles	460.00 to	470.00
18-8 turnings	335.00 to	345.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 51.00 to	$ 52.00
No. 2 hvy. melting	41.00 to	42.00
No. 1 busheling	68.00 to	69.00
No. 1 dealer bundles	68.00 to	69.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed boring and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	23.00 to	24.00
Low phos. plate	76.00 to	77.00
Structural and plate, 2 ft. and under	77.00 to	78.00
Rails, 2 ft. and under	75.00 to	76.00
Scrap rails, random lgth	61.00 to	62.00
No. 1 machinery cast	74.00 to	75.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 busheling	82.00 to	83.00
No. 1 dealer bundles	83.00 to	84.00
No. 2 bundles	49.00 to	50.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	27.00 to	28.00
No. 1 RR hvy. melting	79.00 to	80.00
Rails, random length	74.00 to	75.00
Rails, 18 in. and under	97.00 to	98.00
RR specialties	79.00 to	80.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	43.00 to	44.00
Stove plate	89.00 to	90.00
Steel car wheels	78.00 to	79.00
Rerolling rails	99.00 to	100.00
Unstripped motor blocks	54.00 to	55.00

Birmingham

No. 1 hvy. melting	$ 70.00 to	$ 71.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	70.00 to	71.00
No. 2 bundles	46.00 to	47.00
No. 1 busheling	70.00 to	71.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	23.00 to	24.00
Shoveling turnings	36.00 to	37.00
Cast iron borings	36.00 to	37.00
Electric furnace bundles	67.00 to	68.00
Elec. furnace, 3 ft. & under	70.00 to	71.00
Structural and plate, 2 ft.	89.00 to	90.00
Structural and plate, 4 ft.	83.00 to	84.00
No. 1 RR hvy. melting	83.00 to	84.00
Scrap rails, random lgth	73.00 to	74.00
Rails, 2 ft. and under	90.00 to	91.00
Angles and splice bars	83.00 to	84.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	72.00 to	73.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 50.00 to	$ 51.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	32.00 to	33.00
Machine shop turnings	9.00 to	10.00
Shoveling turnings	12.00 to	13.00
Cast iron borings	19.00 to	20.00
Low phos. 18 in. and under	77.00 to	78.00
Rails, random length	59.00 to	60.00
Rails, 2 ft. and under	75.00 to	76.00
No. 1 cupola cast	64.00 to	65.00
Heavy breakable cast	25.00 to	26.00
Drop broken cast	68.00 to	69.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	33.00 to	34.00
No. 2 dealer bundles	20.00 to	24.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	430.00 to	450.00
18-8 turnings	330.00 to	350.00
430 prepared solids	90.00 to	100.00
410 solids	75.00 to	85.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	50.00 to	52.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	9.00 to	10.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	60.00 to	62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 74.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	82.00
No. 2 bundles	58.00
Mixed steel scrap	53.00
Bush. new fact. prep'd	77.00
Bush. new fact. unprp'd	60.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turnings	19.00
Cast scrap	97.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	52.00 to	53.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	24.00 to	25.00
Shredder scrap	70.00 to	71.00
Cut structural plate, 2 ft. and under	88.00 to	89.00
Cut structural plate, 5 ft. and under	70.00 to	71.00
Unstripped motor blocks	54.00 to	55.00
Cupola cast	81.00 to	82.00

PRICES: HOW LOW WILL THEY GO?

In July, it was more down than up for prices of producers' finished goods. The U.S. Labor Dept.'s producer price index for these goods fell by 0.4 pct from June.

Over the 12-month period ending at the close of July, finished goods prices declined in seven of those months, remained unchanged one month and rose in four months. From the start of the year through July, producers' finished goods prices were down by 2.3 pct.

Prices of capital goods have bucked the tide. Tags on these goods rose in 10 of the 12 months ending at the close of July. And again in July, when producers' prices for all finished goods went *down* by 0.4 pct, prices of capital goods *rose* by 0.2 pct.

The relative strength seen in tags for capital goods raises a question that is baffling some analysts. After all, demand for capital equipment is currently one of the economy's soft spots. Yet, prices for these goods show the greatest relative strength.

Is it continuing price inflation in capital goods that is hurting market demand? That's a question that starts debates rather than yields clear answers.

Much of the recent softness in overall producers' prices has been due to still-falling prices for most lines of energy goods. Over the year ending in July, prices of energy goods have tumbled by more than 36 pct.

Some recent signs of some price firmness in energy goods may well put a floor under prices. Too, widely-anticipated lower interest rates could heat up market demand in the economy and, in turn, create upward price pressures.

A price bottom? It may be now shaping up.

Latest Month Covered: July 1986

Products	Index Reading For Month (1967 = 100)	Pct Change From Previous Month	Pct Change From Year-Ago Month
Metal Cutting Machine Tools	404.0	+ 0.2	+ 1.8
Metal Forming Machine Tools	441.4	+ 0.4	+ 1.6
Agricultural Machinery & Equip.	339.6	– 0.1	+ 0.3
Construction Machinery & Equip.	366.9	0	+ 1.3
Oil and Gas Field Machinery	418.7	+ 0.1	– 1.2
Industrial Material Handling Equip.	297.0	+ 0.4	+ 0.6
Pumps, Compressors & Allied Equip.	361.9	+ 0.2	+ 1.5
Mining Machinery & Equipment	382.4	+ 0.4	+ 0.6
Mechanical Power Transmission Equip.	347.5	+ 1.1	+ 2.2
Automobiles	233.9	+ 0.4	+ 2.2
Motor Trucks–Light	311.2	0	+ 6.0
Motor Trucks–Heavy	347.4	+ 1.3	+ 4.2
Railroad Equipment	367.8	+ 0.9	+ 1.0
Fabricated Metal Structural Products	316.0	+ 0.1	+ 0.4
Electric Motors	353.8	+ 1.2	+ 0.5
Valves & Fittings (Dec. 1982 = 100)	106.9	+ 0.3	+ 1.8
Ball & Roller Bearings	357.0	+ 0.3	+ 1.0
Foundry & Forge Shop Products	363.5	– 0.3	0
Heating Equipment	268.6	– 0.4	+ 3.3
Plumbing Fixtures & Brass Fittings	323.8	– 0.1	+ 3.5
Metal Containers	362.3	+ 0.4	+ 1.2
Internal Combustion Engines	354.2	+ 0.3	+ 2.0

Data based on U.S. Labor Dept.'s Producer Price Index